

Air Law and the Aviation Industry of the Future

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Drones (UA): suitability, applicability, effectiveness of rulemaking

Drones, as all unmanned aircraft, are covered by existing international air law instruments

- 36th Session of ICAO Legal Committee
- 37th Session of ICAO Legal Committee

International Air Law Instruments have mostly been developed for the purposes of manned aviation.

With the increasing number of drones on the market, need for quick review/development of the rules!

Simultaneous rulemaking on several level

ICAO

JARUS = Joint Authorities for
Rulemaking on Unmanned Systems

Regional, such as EU
- Regulation 2018/1139

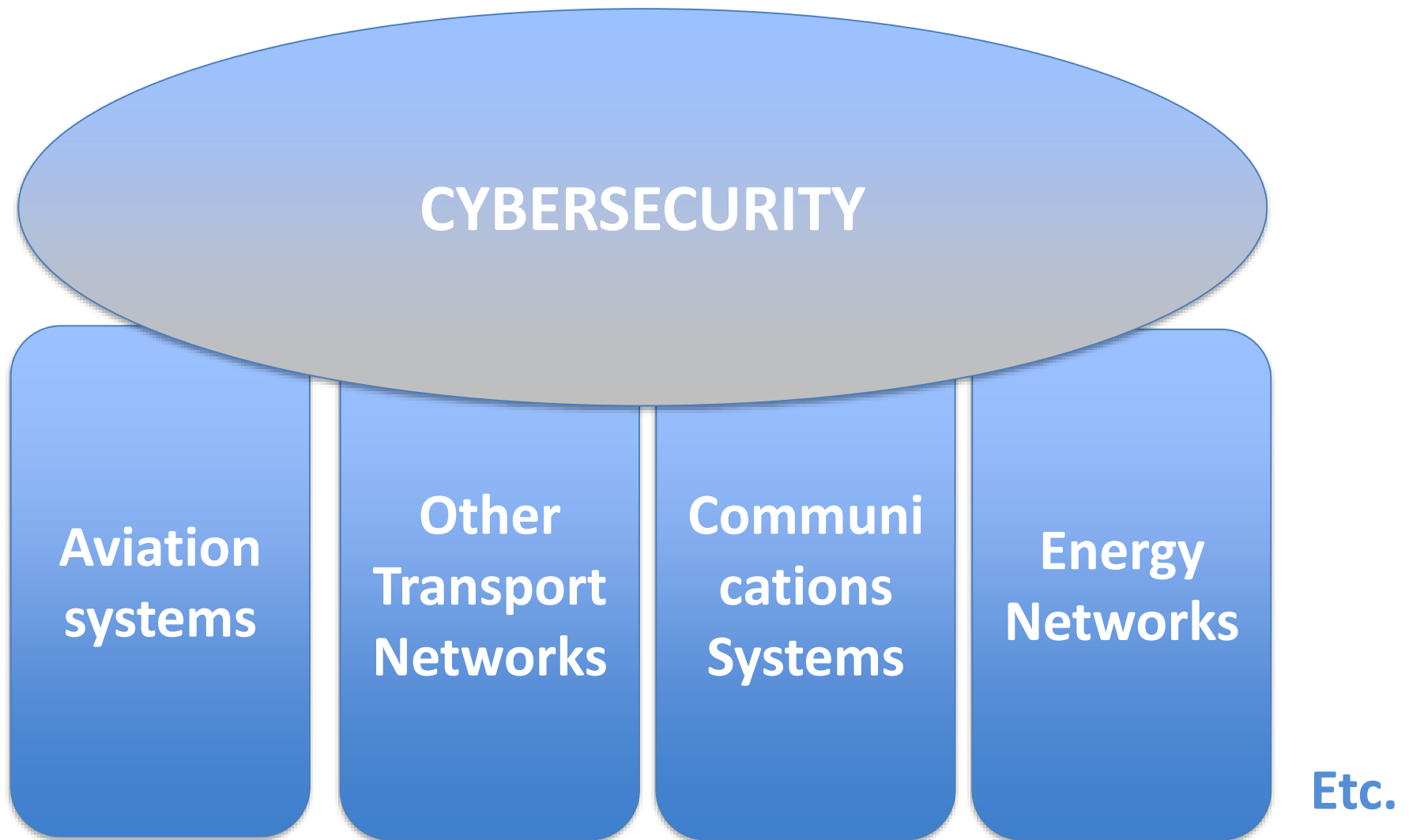
NATIONAL

Challenges in the Area of Drones



- How to reach out to a totally new group of operators?
- How to address issues under such a rapid technological development?
- How to create simple but efficient and “easily applicable” rules?
- What is the impact on regulating the traditional manned aviation?

Cybersecurity



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Simultaneous rulemaking on several level

ICAO

- Secretariat Study Group on Cybersecurity (SSGC)
 - Cybersecurity Research Subgroup on Legal Aspects

Regional, such as EU

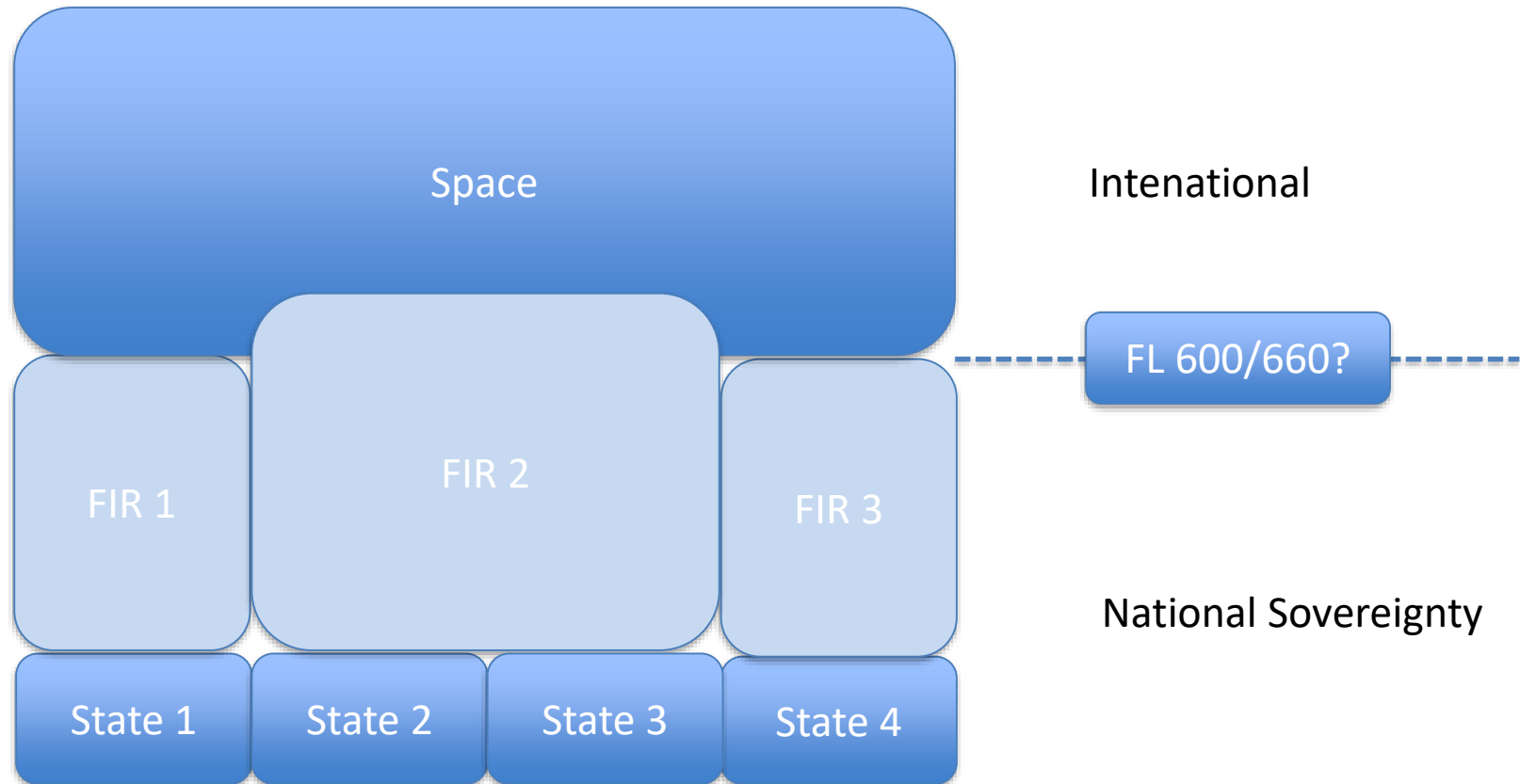
- The NIS Directive (overarching)
- Aviation Regulation and Certification Specifications under EASA framework

National legislation for exceptional circumstances

Cybersecurity Rules

- Where cyber issues are looked at, **we cannot limit ourselves to looking only at the aviation industry** and aviation system, as the aviation system is connected with other systems.
- Where security issues are contemplated, **confidentiality of information is often crucial**. How do we work together for global solutions and, and yet retain confidentiality?
- How to include Cybersecurity rules in the existing aviation regulatory framework?
 - incorporation in the current safety and security management system?

Commercial aerospace transportation



Commercial air transport, commercial airspace transport

What is the interface between Aviation and Space Activities? How do we want to regulate it?

- ICAO is working with the UN office for Outer Space Affairs, to find common ground and solutions for the future.
- In many states, the regulation of space activities and aviation is separated
 - According to the Finnish Act on Space Activities, however, a space object flying in the airspace of Finland is subject to applicable provisions on civil aviation.
- The industry is making technological progress – when will it have an interest on a common international approach?

Artificial Intelligence

Artificial Intelligence can serve many purposes, also in aviation

- Use in aircraft: assessing data issued from several sensors, monitors and systems
- Operation of aircraft: modelling airline route choices, predicting trajectories, optimizing the use of fuel, etc.
- In ATM: improving the automation of ATM systems, transforming voice communications into text.
- Passenger experience: ticketing systems, passenger identification, luggage tracking
- Customer service: chatbots
- Processing large amounts of data, identifying trends, identifying differences, producing analysis.

Legal Approach to AI

- Automation -> Digitalisation -> Artificial Intelligence
 - Is AI "just another tool"?

AI, mimicking human problem solving and behavior, is limited by its algorithms

- From the legal perspective, systems that "think for themselves", is a new challenge, particularly from the point of view of responsibility and liability.
 - Shall responsibility lie with the party that defines the outcome the AI is expected to produce?
 - Or shall responsibility lie with the designer of the algorithms?
 - Or with the one defining what data is used as source?



Thank you for your attention!